

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT:

(A) NAME: Hoechst Marion Roussel Deutschland GmbH
(B) STREET: -
(C) CITY: Frankfurt
(D) STATE: -
(E) COUNTRY: Germany
(F) POSTAL CODE (ZIP): 65926
(G) TELEPHONE: 069-305-7072
(H) TELEFAX: 069-35-7175
(I) TELEX: -

(ii) TITLE OF INVENTION: Antisense Oligonukleotide gegen Tenascin zur Behandlung von Vitiligo

(iii) NUMBER OF SEQUENCES: 58

(iv) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 7346 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION: 1..7346

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

GAATTGGCTA	GAGCCCTAGA	GCCCCAGCAG	CACCCAGCCA	AACCCACCTC	CACCATGGGG	60
GCCATGACTC	AGCTGTTGGC	AGGTGTCTTT	CTTGTCTTTC	TTGCCCTGGC	TACCGAAGGT	120
GGGGTCTCTA	AGAAAGTCAT	CCGGCACAAG	CGACAGAGTG	GGGTGAACGC	CACCCCTGCCA	180
GAAGAGAACC	AGCCAGTGGT	GTTTAACCAAC	GTTTACAACA	TCAAGCTGCC	AGTGGGATCC	240
CAGTGTTCGG	TGGATCTGGA	GTCAGCCAGT	GGGGAAGAAAG	ACCTGGCACC	GCCTTCAGAG	300
CCCAGCGAAA	GCTTTCAGGA	GCACACAGTA	SATGGGGAAA	ACCAATTTCT	CTTCACACAT	360
CGCATCAACA	TCCCCCGCCG	GGCTGTGTGC	TGTGCTGCAG	CCCTGTATGT	TAAAGAGCTG	420
CTGAGCAGAC	TGGAGGAGCT	GGAGAACCTG	GTGTCTTCCC	TGAGGGAGCA	ATGTAAGTGA	480
GGAGCAGGCT	GCTGTCTCCA	GCTTGCCACA	GGCGGCTTGG	ACACGAGGCG	CTTCTGTAGC	540
GCTCGGGCCA	ACTTCAGCAC	TGAAGGATGT	GGCTGTGTCT	GCGAAGCTGG	CTGGAAAAGGC	600
CCCAACTGCT	CTGAGCCCGA	ATGTCCAAGC	AACTGTCAAC	TTGGAGGCGG	GTTCATTGAT	660
GGGCAGTCCA	TCTGTGACGA	CGCTTTCACG	GGCGAGGACT	GCAGCCAGCT	GGCTTGCCTC	720
AGCGACTGCA	ATGACCAAGG	CAAGTGCCTG	AATGGAGTCT	GCATCTGTTT	CGAAGGCTAC	780
GGGGCTGACT	GCAGCCGTGA	AATGTGCCCA	GTGCCCTGCA	GTGAGGAGCA	CGGCACATGT	840
GTAGATGGGT	TGTGTGTGTG	CCACGATGGC	TTTGCAGGGG	ATGACTGCAA	CAAGCCCTCTG	900
TGTCTCAACA	ATTGCTACAA	CCGTGGAAGA	TGCGTGGAGA	ATGAGTGGCT	GTGTGATGAG	960

GGTTTTCACGG	GGGAAGACTG	CAGTGGAGCTG	ATCTGCCCCA	ATGACTGCTT	GGACCGGGGGC	1020
CGTTGCACTCA	ATGGCACCTG	CTACTGGGAA	GAAGGCTTCA	CAGGTGAAGA	CTGGGGGAAA	1080
CCACACTGCG	CACATGGCTG	CCACACCCAG	GGCGGTGTG	AGGAGGGGCA	GTGTGTATGT	1140
GATGAGGGCT	TTGGCGGTGT	GGACTGGAGC	GAGAAGAGGT	GTCTGCTGA	CTGTCACAAT	1200
CGTGGCGCT	GTGTAGACGG	GGGTGTGAG	TGTGATGATG	GTTCGACTGG	AGGTGACTGT	1260
GGGGAGCTCA	AGTGTCCCAA	TGGGTGGCACT	GGGCAATGGCC	GCTGTGTCAA	TGGGGAGTGT	1320
GTGTGTGATG	AGGGCTATAC	TGGGGAGGAC	TGCAGCCAGC	TACGGTGGCC	CAATGACTGT	1380
CACAGTGGGG	GGCGCTGTGT	CGAGGGCAAA	TGTGTATGTG	AGCAAGGCTT	CAAGGGGTAT	1440
GACTGGAGTG	ACATGAGCTG	CGCTAATGAC	TGTCAACAGC	ACGGCGCTG	TGTGAATGGC	1500
ATGTGTGTGT	GTGATGACGG	GTACACAGGG	GAAGACTGCC	GGGATCGCCA	ATGGCGGAGG	1560
GACTGGAGCA	ACAGGGGCTT	CTGTGTGAC	GGACACTGCC	TGTGTGAAGA	CGGCTTCACC	1620
GGCGCTGACT	GTGGCAGAACT	CTCTGTGCA	AATGACTGCC	ATGGCGAGGG	TGGGTGTGTG	1680
AATGGGCACT	GGGTGTGCA	TGAAGGATTT	ATGGGCAAA	ACTGGAGGA	GCAGAGATGT	1740
CCCACTGACT	GTGATGGGCA	GGCGGCTGTG	GTGGACGGCC	AGTGCATCTG	CCACGAGGGC	1800
TTCAAGGGC	TGGACTGTGG	CCAGCACTCC	TGCGCCAGTG	ACTGCCAACAA	CTTAGGACAA	1860
TGGGTGTGGG	GGCGCTGCAT	CTGCAACGAG	GGTACAGCG	GAGAAGACTG	CTCAGAGGTG	1920
TCTCTGTGCA	AAGACCTGCT	TGTGACAGAA	GTGACGGAAG	AGACGCTCAA	CTGGCGGTGG	1980
GACAAATGAGA	TGGGGGTGAC	AGAGTACCTT	GTGTGTACA	CGCGCACCCA	CGAGGGTGGT	2040
CTGGAAATGC	AGTTCCGTGT	GGCTGGGAC	CAGACGTCCA	CCATCATCCG	GGAGCTGGAG	2100
CCTGGTGTGG	AGTACTTTAT	CGGTGTATTT	GGCATCTGTG	AGAACAGAA	GAGCATTCCT	2160
GTGAGCGGCA	GGGTGGGAC	GTACTTACCT	GCACCTGAAG	GGCTGAAATT	CAAGTCCATC	2220
AAGGAGACAT	CTGTGGAACT	GGAGTGGGAT	CTCTAGACA	TTGCTTTTGA	AACCTGGGAG	2280
ATCATCTTCC	GGAAATATGAA	TAAAGAAAT	GAGGGAGAGA	TCACCAAAAG	CTGAGGAGG	2340
CCAGAGACCT	CTTACCGGCA	AACTGGTCTA	GGCTGTGGG	AAGAGTATGA	GATATCTCTG	2400
CACATAGTGA	AAAACAATAC	CGGGGGCTCT	GGCTGAAGA	GGGTGACAC	CACACGCTTG	2460
GATGGCGGCA	GGCAGATCGA	GGTGAAGAT	GTACAGACA	CCACTGCTTT	GATCACCTGG	2520
TTCAAGCGCC	TGGCTGAGAT	CGATGGCATT	GAGGTGACCT	ACGGCATCAA	AGACGTGGCA	2580
GGAGACCTTA	CCACCATCGA	TCTCACAGAG	GAGGAGAAC	AGTACTCCAT	CGGGAACCTG	2640
AAGCTTGACA	CTGAGTACGA	GGTGTCCCTC	ATCTCCCGCA	GAGGTGACAT	GTCAAGCAAC	2700
CCAGCGCAAG	AGACCTTCAC	AACAGGCTCT	GATGCTCCCA	GGAACTCTTG	ACGTGTCTTC	2760
CAGACAGATA	ACAGCATCAC	CTTGAATGG	AGGAATGGCA	AGGCAGCTAT	TGACAGTTAC	2820
AGAATTAACT	ATGCCCTCAT	CTCTGGAGGG	GACCACTGCT	AGGTGTGATG	TCCAAAGAGC	2880
CAACAAGGCA	CAACCAAAAC	CACACTCACA	GGTGTGAGG	CGGGAACTGA	ATATGGGATT	2940
GGAGTTTCTG	CTGTGAAGGA	AGACAAGGAG	AGCAATCCAG	CGACCATCAA	CGCAGCCACA	3000
GAGTTGGACA	CGCCCAAGGA	CTTTCAGGTT	TCTGAAACTG	CAGAGACCA	CTTACCTCTG	3060
CTCTGGAGGA	CACCGTTGGC	CAAAATTTGAC	CGGTACCGCC	TCAATTCAG	TCTCCCCACA	3120
GGCCAGTGGG	TGGGAGTGCA	GCTTCCAAGA	AACACCACTT	CTATGTCTCT	GAGAGGCTTG	3180
GAACAGGAC	AGGAGTACAA	TGTCTCTCTG	ACAGCGGAGA	AAGGCAGACA	CAAGAGCAAG	3240
CCCGCAGCTG	TGAAGGCATC	CAGTGAACAA	GCCCTGAGC	TGGAAAACT	CACCTGCACT	3300
GAGTTTGGCT	GGGATGGCCT	CAGACTCAAC	TGGACCGGG	CTGACCAAGC	CTATGAGCAC	3360
TTTATCATTC	AGGTGCAGGA	GGCCAACAA	GTGGAGGCA	CTCGGAACCT	CACCTGTCTT	3420
GGCAGCCTTC	GGGTGTGGA	CATACCGGG	CTCAAGGCTG	CTACGCTTCA	TACAGTCTCT	3480
ATCTATGGGG	TGATCCAGGG	CTATAGAACA	CCAGTGGCTCT	CTGTGAGGC	CTCCACAGGG	3540
GAAACTCCCA	ATTTGGGAGA	GGTGTGTGT	GGCAGGCTGG	GCTGGGATGC	CTTCAAACTC	3600
AATGGACTG	CTCCAGAAGG	GGCTATGAG	TACTTTTCA	TTGAGGTGCA	GGAGGCTGAC	3660
ACATGAGAGG	CAGCCACAGAA	CTCACCTCTC	CCAGGAGGAC	TGAGGTCCAC	AGACCTGCTT	3720
GGGTCAAAG	CAGCCACTCA	TTATACCATC	ACCATCCGCG	GGGTCACTGA	GGACTTCAGC	3780
ACAAACCTCT	TCTCTGTTGA	AGTCTTGACA	GAGGAGGTTT	CAGATATGGG	AAACCTCACA	3840
GTGACCGAGG	TTAGCTGGGA	TGCTCTCAGA	CTGAACTGGA	CCACGCCAGA	TGGAACCTAT	3900
GACCACTTTA	CTATTACAGG	CCAGGAGGCT	GACCACTGGA	AAGAGGCTCA	CAATCTCACG	3960
GTCTCTGGCA	GGCTGGGTTT	CATGGAAATC	CCAGGCTTCA	GGGTGGGAC	TCTTACACA	4020
GTCACTCTGC	ACGGCGAGGT	CAGGGGCAAC	AGCACTCGAC	CGCTTGTGT	AGAGGTCTCT	4080
CAGTGGGACG	TGGCGCTCCA	GTCCCGGCTG	TGTGAGCTG	GGGAACGACA	TCTCCAGGAG	4140
ACAGAGGATC	TCCACAGCT	GGGAGATTTA	GGGTGTGTG	AGGTGGGCTG	GGATGGGCTC	4200
AGACTCAACT	GGACCGCAGC	TGACAAATGCC	TATGAGCACT	TTGTCAATTC	GGTGCAGGAG	4260
GTCAACAAAG	TGAGGGCAGC	CCAGAACCTC	ACGTGGCTTG	GCAGCCTCAG	GGCTGTGGAC	4320
ATCCCGGGCC	TGAGGGCTGC	CACGCTTAT	AGATCTTCCA	TCTATGGGGT	GATCCGGGGC	4380
TATAGAACAC	CAGTACTCTC	TGGTGGGGCC	TCCACAGGCA	AAGAACCTGA	AATTTGGAAC	4440
TTAAATGTGT	CTGACATAAC	TCCCGAGAGC	TTCAATCTCT	CCTGGATGGC	TACCGATGGG	4500
ATCTTCCAGA	CGTTTACCAT	TGAAATTATT	GATTCCAATA	GGTTGCTGGA	GACTGTGGAA	4560

REPLACEMENT SHEET (RULE 26)

TATAATATCT	CTGGTGCTGA	ACGAACTGCC	CATATCTCAG	GGCTACCCCG	TAGTACTGAT	4620
TTTTATTGCT	ACCTCTCTGG	ACTTCTCTCG	AGCATCCGGA	CCAAAACCAT	CAGTGGCCCA	4680
GGCACGACAG	AGGCGCTGCG	CCTTCTGGAA	AACCTAAACA	TTTCCGACAT	TAATCCCTAC	4740
GGGTTCCACG	TTTCTCTGAT	GGCATCGGAG	AATGCTTTTG	ACAGCTTTCT	AGTAACGGTG	4800
GTGGATTCTG	GGAAAGCTGCT	GGACCCCGAG	GAATTCACAC	TTTCAGGAAAC	CCAGAGGGAAG	4860
CTGGAGCTTA	GAGGCTTCAT	AACTGGCATT	GGCTATGAGG	TTATGGTCTC	TGGCTTCACC	4920
CAAGGGGCATC	AAACCAAGCC	CTTGAGGGCT	GAGATTGTTA	CAGAAGCCGA	AACCGAAGTT	4980
GACAACTCTC	TGGTTTCAGA	TGCCACCCCA	GACGGTTTCC	GTCTGTCTTG	GACAGCTGAT	5040
GAAGGGGCTCT	TGCACAAATT	TGTTCTCAAA	ATCAGAGATA	CCAAAAGGGA	GTCTGAGCCA	5100
CTGGAAATAA	CCCTACTTGC	CCCGGAACTT	ACGAGGGACA	TAACAGGCTT	CAGAGAGGGT	5160
ACTGAATACG	AAATTGAACT	CTATGGAAAT	AGCAAGGGAA	GGCGATCCCA	GACAGTCAGT	5220
GCTATAGCAA	CAACAGGCCAT	GGGCTCCCCA	AAGGAAATCA	TTTTCTCAGA	CATCACTGAA	5280
AATTCTGGCTA	CTGTCAAGCTG	GAGGGCACCC	ACGGCCCAAG	TGGAGAGCTT	CCGGATTACC	5340
TATGTGCCCA	TTACAGGAGG	TACACCTCTC	ATGTTAACTG	TGGACGGAAAC	CAAGACTCAG	5400
ACCAGGGCTGG	TGAAACTCAT	ACCTGGGCTG	GAGTACCTTG	TCAGCATCAT	CGCCATGAAG	5460
GGCTTTGAGG	AAAGTGAACC	TGTTCTCAGG	TCATTACCCA	CAGCTCTGGA	TGGCCCATCT	5520
GGCTCTGGTGA	CAGCCCAACAT	CACTGACTCA	GAAGCTTGG	CCAGGTGGCA	CCAGCCCATT	5580
GGCACTGTGG	ACAATTATGT	CATCTCTTAC	ACAGGGGAGA	AAGTGGCAGA	AATTACAGGC	5640
ACGGTGTCCG	GGAAACACAGT	GGAGTATGCT	CTGACCCGAC	TCGAGCCTGC	CACGGAATAC	5700
ACACTGAGAA	TCTTTGCAGA	GAAAGGGGCC	CAGAAGAGCT	CAACCATCAC	TGCCAAGTTC	5760
ACAACAGACC	TCGATTCTCC	AAGAGACTTG	ACTGCTACTG	AGGTTCACTC	GGAAACTGCC	5820
CTCTTTACCT	GGCGACCCCG	CCGGGCATCA	GTCACTGGTT	ACCTGCTGGT	CTATGAATCA	5880
GTGGATGGCA	CACTCAAGGA	AGTCAATTGT	GGTCCAGATA	CCACCTCTTA	CAGCTCTGGCA	5940
GACCTGAGCC	CATCCACCCA	CTACACAGCC	AAGATCCAGG	CACTCAATGG	GGCCCTGAGG	6000
AGCAATATGA	TCCAGACCAT	CTTCAACCA	ATTGSACTCC	TGTACCCCTT	CCCAAGGAC	6060
TGCTCCCAAG	CAATGCTGAA	TGGAGACACG	ACCTCTGGCC	TCTACACCAT	TTATCTGAAT	6120
GGTGATAAGG	CTCAGGCGCT	GGAACTCTTC	TGTGACATGA	CCTCTGATGG	GGGTGGATGG	6180
ATTGTGTTCC	TGAGACGCAA	AAACGGACGC	GAGAACTTCT	ACCAAACTG	GAAGGCATAT	6240
GCTGCTGGAT	TTGGGGACCC	CAGAGAAAGAA	TTCTGGCTTG	GGCTGGACAA	CTTGAACAAA	6300
ATCAGAGCCC	AGGGGCAGTA	CGAGCTCCGG	GTGGACCTGC	GGGACCATGG	GGAGACAGCC	6360
TTTGTCTCT	ATGACAAATT	CAGCTCTGGG	GATGCCAAGA	CTGCTACAAA	GCTGAAGGTG	6420
GAGGGGTACA	GTGGACAGC	AGGTGACTCC	ATGGCTTACC	ACAATGGCAG	ATCTTCTCTC	6480
ACCTTTGACA	AGGACACAGA	TTCAAGCCATC	ACCAACTGTG	CTCTGTCTAC	AAGGGGCTTC	6540
TGGTACAGGA	ACTGTCAACC	TGTCAACCTG	ATGGGGAGAT	ATGGGGACAA	TAACCAACAGT	6600
CAGGGGGTTA	ACTGTTTCCA	CTGGAAAGGC	CACGAACACT	CAATCCAGTT	TGCTGAGATG	6660
AAGCTGAGAC	CAAGCAACTT	CAGAAATCTT	GAAGGCAGGC	GCAACCGGGC	ATAAATTGGA	6720
GGGACCACTG	GGTGAAGAG	GAATAAGGCG	GGCCAGAGCG	AGGAAAGGAT	TTTACCAAG	6780
CATCAATACA	ACCAGCCCAA	CCATCGGTCC	ACACCTGGGC	ATTTGGTGAG	AATCAAAGCT	6840
GACCATGAT	CCCTGGGGCC	AACGGCAACA	GCATGGGGCT	CACCTCCTCT	GTGATTTCTT	6900
TCTTTTGACC	AAAGACATCA	GTCTCCAACA	TGTTCTGTTT	TTGTTGTTTG	ATTGAGCAAA	6960
AATCTCCAG	TGACAACATC	GCAATAGTTT	TTTACTTCTC	TTAGGTGGCT	CTGGGATGGG	7020
AGAGGGGTAG	GATGTACAGG	GGTAGTTTGT	TTTAGAACCA	GGCGTATTTT	ACATGAAGCT	7080
GTATAATTAA	TTGTCAATTAT	TTTTGTTAGC	AAAGATTAAA	TGTGTCATTG	GAAGCCATCC	7140
CTTTTTTTAC	ATTTTCATACA	ACAGAAACCA	GAAAAAGCAAT	ACTGTTTCCA	TTTTAAGGAT	7200
ATGATTAATA	TTATTAATAT	AATAATGATG	ATGATGATGA	TGAAAACTAA	GGATTTTTCA	7260
AGAGATCTTT	CTTTCCAAAA	CATTTCTGGA	CAGTACCTGA	TTGTATTTTT	TTTTTAAATA	7320
AAAGCACAA	TACTTTTGAA	AAAAAA				7346

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

REPLACEMENT SHEET (RULE 26)

(A) NAME/KEY: exon
(B) LOCATION:1..17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

GGTTTGGGTG GAGGTGG

17

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

GGAGGTGGTA CCCCCGG

17

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

GGTGGTACCC CCGG

14

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

GGAGGTGGTA CCCC

14

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 17 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:
(A) NAME/KEY: exon
(B) LOCATION:1..17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

AGAAAGAACG AAAG3AA

17

(2) INFORMATION FOR SEQ ID NO: 7:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:
(A) NAME/KEY: exon
(B) LOCATION:1..12

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

GGAGGTGGTA CC

12

(2) INFORMATION FOR SEQ ID NO: 8:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 16 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:
(A) NAME/KEY: exon
(B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

GGAGCGATGG CTTCCA

16

REPLACEMENT SHEET (RULE 26)

(2) INFORMATION FOR SEQ ID NO: 9:

- (1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
(B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

AAAGGAACGG GAGCG

15

(2) INFORMATION FOR SEQ ID NO: 10:

- (1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
(B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

GGTCGGTTTG GGTGG

15

(2) INFORMATION FOR SEQ ID NO: 11

- (1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 16 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
(B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

CTTACAGGTC CGTTGA

16

(2) INFORMATION FOR SEQ ID NO: 12:

REPLACEMENT SHEET (RULE 26)

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 15 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA .genomic)

(ix) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

GGCCGTGTTT GGTGT

15

(2) INFORMATION FOR SEQ ID NO: 13:

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 16 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA .genomic)

(ix) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

TCACCCCTCT TTCTGG

16

(2) INFORMATION FOR SEQ ID NO: 14:

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA .genomic)

(ix) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

GGACACCGAC ACGG

14

(2) INFORMATION FOR SEQ ID NO: 15:

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

AACGGGAGCG ATGG

14

(2) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

ATCTCGGGGT CGTC

14

(2) INFORMATION FOR SEQ ID NO: 17:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

AAAGAACGAA AGGAA

15

(2) INFORMATION FOR SEQ ID NO: 18:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

REPLACEMENT SHEET (RULE 26)

(1) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..11

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

GGTGGTACCC C

11

(2) INFORMATION FOR SEQ ID NO: 19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 11 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..11

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

CCCGGTACTG A

11

(2) INFORMATION FOR SEQ ID NO: 20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 13 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..13

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CCACAGAAAG AAC

13

(2) INFORMATION FOR SEQ ID NO: 21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

REPLACEMENT SHEET (RULE 26)

(1x) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

GGTTT333GTG GAGGTGG

17

(2) INFORMATION FOR SEQ ID NO: 22:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 17 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(1x) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

GGAGGTGGTA CCCCCGG

17

(2) INFORMATION FOR SEQ ID NO: 23:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(1x) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

GGTGGTACCC CCGG

14

(2) INFORMATION FOR SEQ ID NO: 24:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(1x) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..14

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

GGAGGTGGTA CCCC

14

2. INFORMATION FOR SEQ ID NO: 25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

AGAAAGAACG AAAGGAA

17

(2) INFORMATION FOR SEQ ID NO: 26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..12

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

GGAGGTGGTA CC

12

(2) INFORMATION FOR SEQ ID NO: 27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

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GGAGCGATCG CTTCOA

16

(2) INFORMATION FOR SEQ ID NO: 28:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

AAAGGAACGG GAGCG

15

(2) INFORMATION FOR SEQ ID NO: 29:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

GGTCGGTTTG GGTGG

15

(2) INFORMATION FOR SEQ ID NO: 30:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 16 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

CTTACAGGTC CGTTGA

16

(2) INFORMATION FOR SEQ ID NO: 31:

- (1) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

GGCCGTGTTG GCTGT

15

(2) INFORMATION FOR SEQ ID NO: 32:

- (1) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 16 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

TCACCCCTCT TTGTGG

16

(2) INFORMATION FOR SEQ ID NO: 33:

- (1) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

GGACACCGAC ACGG

14

(2) INFORMATION FOR SEQ ID NO: 34:

- (1) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 14 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

AACGGGAGCG ATGG

14

(2) INFORMATION FOR SEQ ID NO: 35:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

ATCTCGGGGT CGTC

14

(2) INFORMATION FOR SEQ ID NO: 36:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

AAAGAACGAA AGGAA

15

(2) INFORMATION FOR SEQ ID NO: 37:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

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(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon

(B) LOCATION:1..11

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

GGTGGTACCC C

11

(2) INFORMATION FOR SEQ ID NO: 38:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon

(B) LOCATION:1..11

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

CCCGGTACTG A

11

(2) INFORMATION FOR SEQ ID NO: 39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon

(B) LOCATION:1..13

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

CCACAGAAAG AAC

13

(2) INFORMATION FOR SEQ ID NO: 40:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(1x) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..17

(x1) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

GGTTTGGGTTG GAGGTGG

17

(2) INFORMATION FOR SEQ ID NO: 41:

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 17 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(11) MOLECULE TYPE: DNA (genomic)

(1x) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..17

(x1) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

GGAGGTGGTA CCCCTGG

17

(2) INFORMATION FOR SEQ ID NO: 42:

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(11) MOLECULE TYPE: DNA (genomic)

(1x) FEATURE:
 (A) NAME/KEY: exon
 (B) LOCATION:1..14

(x1) SEQUENCE DESCRIPTION: SEQ ID NO: 42:

GGTGGTACCC CCGG

14

(2) INFORMATION FOR SEQ ID NO: 43:

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(11) MOLECULE TYPE: DNA (genomic)

(1x) FEATURE:
 (A) NAME/KEY: exon

REPLACEMENT SHEET (RULE 26)

(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

GGAGGTGGTA CCCC

14

(2) INFORMATION FOR SEQ ID NO: 44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

AGAAAGAACG AAAGSAA

17

(2) INFORMATION FOR SEQ ID NO: 45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..12

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 45:

GGAGGTGGTA CC

12

(2) INFORMATION FOR SEQ ID NO: 46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

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GGAGCGATGG CTTCOA

15

(2) INFORMATION FOR SEQ ID NO: 47:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:
 - (A) NAME/KEY: exon
 - (B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

AAAGGAACGG GAGCG

15

(2) INFORMATION FOR SEQ ID NO: 48:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:
 - (A) NAME/KEY: exon
 - (B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

GGTCGGTTTG GGTGG

15

(2) INFORMATION FOR SEQ ID NO: 49:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 16 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:
 - (A) NAME/KEY: exon
 - (B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

CTTACAGGTC CGTTGA

16

(2) INFORMATION FOR SEQ ID NO: 50:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

GGCCGTGTTC GCTGT

15

(2) INFORMATION FOR SEQ ID NO: 51:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 16 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..16

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

TCACCCCTCT TTCTGG

16

(2) INFORMATION FOR SEQ ID NO: 52:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: exon
- (B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

GGACACCGAC ACGG

14

(2) INFORMATION FOR SEQ ID NO: 53:

(1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:
(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

AACGGGAGCG ATGG

14

(2) INFORMATION FOR SEQ ID NO: 54:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:
(A) NAME/KEY: exon
(B) LOCATION:1..14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

ATCTCGGGGT CGTC

14

(2) INFORMATION FOR SEQ ID NO: 55:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:
(A) NAME/KEY: exon
(B) LOCATION:1..15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

AAAGAACGAA AGGAA

15

(2) INFORMATION FOR SEQ ID NO: 56:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11 base pairs
(B) TYPE: nucleic acid

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(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..11

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

GGTGGTACCC C

11

(2) INFORMATION FOR SEQ ID NO: 57:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..11

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

CCCGGTACTG A

11

(2) INFORMATION FOR SEQ ID NO: 58:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: exon
(B) LOCATION:1..13

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

CCACAGAAAG AAC

13